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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/680,401 | 10/05/2000 | Seinosuke Mizuno | 198224USOX | 1884 |
| 22850 | 7590 | 07/21/2004 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | DICUS, TAMRA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1774 | |

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/680,401

Applicant(s)

MIZUNO ET AL.

Examiner

Tamra L. Dicus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This Office Action is responsive to the amendment filed July 10, 02.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 20 contains the trademark/trade name "THIXON GPO" and "Metalock F-10".

Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe adhesive and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20 (amended)-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,480,066 to Davis et al. in view of USPN 4,891,267 to Takahashi et al.

Davis '066 teaches a rubber composition having adhesion of rubber to reinforcing metal such as brass-plated wire (col. 3, lines 24-55). At col. 3, lines 32-36, the rubber is vulcanized (equivalent to a heat treated adhesive). The rubber also includes halogenated polymers mixed with the elastomers and rubber adhesive (see col. 3, line 39 and col. 4, lines 1-15) for better adhesion to brass (col. 3, lines 32-36). Davis '066 teaches the adhesive comprising chlorinated rubber and chlorosulfonated polyethylene rubber to provide flexible and strong thermally stable bonds between rubber and metal. See col. 3, line 52-col. 4, line 11. Davis '066 also teaches improved rubber-to-metal adhesion is obtained by the use of halogenated rubber alone with a cost-effective savings (col. 2, lines 40-45). A blend of chlorinated rubbers can also be used. See col. 8, line 50-65. Davis '066 does not refer to the composition as a shrinkage control material, however, since the same materials are employed, they are considered equivalents.

Davis '066 does not teach a specific thickness of adhesive within 5 to 25 microns or 12-22 microns. Takahashi teaches a metal wire coated with a heat-treated adhesive layer at col. 7, lines 22-33 to reinforce rubber materials. Takahashi also provides motivation to vary adhesive thickness due to a heat treatment at col. 9, lines 4-68, improving adhesion by varying the coverage which is a function of the thickness as explained therein. It would have been obvious to one of ordinary skill in the art to produce a thickness between a range of 5 to 25 microns, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272. The thickness effects the adhesion strength and the coverage area.

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Claims 20 (amended)- 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5085905 to Beck.

Beck discloses an adhesion of elastomers to metal wires such as brass. See Figure 1 showing elastomeric cover 8, reinforcing brass wire 6 and 3 and elastomeric 5 and 2 between 6 and 3. Beck teaches ethylene-propylene diene polymers, halogenated rubbers are common materials in an elastomeric composition and may consist of blends thereof which are additionally heat treated from 220 to 375 degrees F for curing purposes onto metal reinforcement such as brass plated metal wire (see col. 3, lines 1-20, col. 5, lines 33-40, and col. 6, lines 5-10). Beck does not refer to the composition as a shrinkage control material, however, since the same materials are employed, they are considered equivalents.

Beck does not teach a specific thickness of adhesive within 5 to 25 microns or 12-22 microns (instant claims 20-21). It would have been obvious to one of ordinary skill in the art to produce a thickness as claimed, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272. The thickness effects the adhesion strength.

Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,480,066 to Davis et al. in view of USPN 4,376,868 to Davis et al. and further in view of USPN 4,331,496 to Orndorff, Jr.

Davis '066 teaches a rubber composition having adhesion of rubber to reinforcing metal such as brass-plated wire (col. 3, lines 24-55). At col. 3, lines 32-36, the rubber is vulcanized (equivalent to a heat treated adhesive). Davis '066 teaches the adhesive comprising chlorinated

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rubber and chlorosulfonated polyethylene rubber to provide flexible and strong thermally stable bonds between rubber and metal. See col. 3, line 52-col. 4, line 11. A blend of chlorinated rubbers can also be used. Davis '066 also teaches improved rubber-to-metal adhesion is obtained by the use of halogenated rubber alone with a cost-effective savings (col. 2, lines 40-45). Davis '066 does not teach the composition to be a shrinkage control material, however, since the same materials are employed, they are considered equivalents.

Davis '066 does not teach a specific thickness of adhesive within 5 to 25 microns or 12-22 microns. It would have been obvious to one of ordinary skill in the art to produce a thickness between a range of 5 to 25 microns, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272. The thickness effects the adhesion strength.

While Davis '066 does refer to the use of ethylene-propylene diene polymer rubber at col. 2, line 26 and halogenated rubber blends, but Davis '066 does not teach including ethylene-propylene diene polymer in their invention. However, Davis '838 teaches halogenated rubber polymer blends include ethylene-propylene diene polymer such as ethylene-propylene-dicyclopentadiene terpolymer at col. 4, lines 5-16 in their invention. Such a conventional rubber elastomeric composition shows an improvement in adherence to metal (see col. 7, lines 16-39). It would have been obvious to one of ordinary skill in the art to modify the wire adhesive structure of Davis '066 to include ethylene-propylene diene polymer because Davis '838 teaches halogenated rubbers such as ethylene-propylene diene polymers are conventional elastomers to use for improving adhesion to metal wire (col. 4, lines 5-16 and col. 7, lines 16-39 of Davis '838).

Davis '066 does not teach an elastomeric extruded layer around the periphery of a shrinkage control material. Orndorff provides a bearing assembly having a brass wire core surrounded by an elastomeric extruded layer adjacent to vulcanized rubber. See col. 4, line 35-65. Orndorff explains elastomeric material may be extruded. See also col. 4, lines 10-15. It would have been obvious to one of ordinary skill in the art to modify the wire of Davis '066 to include an elastomeric extruded periphery because Orndorff teaches these materials and structures are conventional reinforcements for brass and provides additional strength.

Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5085905 to Beck in view of USPN 4,480,066 to Davis et al. and further in view of USPN 4,331,496 to Orndorff, Jr.

Beck discloses an adhesion of elastomers to metal wires such as brass. See Figure 1 showing elastomeric cover 8, reinforcing brass wire 6 and 3 and elastomeric 5 and 2 between 6 and 3. Beck teaches ethylene-propylene diene polymers, halogenated rubbers are common materials in an elastomeric composition and may consist of blends thereof which are additionally heat treated from 220 to 375 degrees F for curing purposes onto metal reinforcement such as brass plated metal wire (see col. 3, lines 1-20, col. 5, lines 33-40, and col. 6, lines 5-10). Beck does not refer to the composition as a shrinkage control material, however, since the same materials are employed, they are considered equivalents.

Beck does not teach a specific thickness of adhesive within 5 to 25 microns or 12-22 microns (instant claims 20-21). It would have been obvious to one of ordinary skill in the art to produce a thickness as claimed, since it has been held that discovering an optimum value of a

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result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272. The thickness effects the adhesion strength.

Beck does not teach an elastomeric extruded layer around the periphery of a shrinkage control material. Orndorff provides a bearing assembly having a brass wire core surrounded by an elastomeric extruded layer adjacent to vulcanized rubber. See col. 4, line 35-65. Orndorff explains elastomeric material may be extruded. See also col. 4, lines 10-15. It would have been obvious to one of ordinary skill in the art to modify the wire of Beck to include an elastomeric extruded periphery because Orndorff teaches these materials and structures are conventional reinforcements for brass and provides additional strength.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Applicant acknowledges during the most recent interview the Examiner and SPE informed the Applicant not to use trademarked terms in the claim. Contrary to the advice of the Office, Applicant amended the claim to include trademark terms because Applicant contests MPEP 2163.02 supports using trademarks and Applicant attached a partial translation. However, MPEP 2163.02 says nothing to support using trademarked terms in a claim. See MPEP 2173.05(u) which explains the 112 2nd paragraph now issued because of the amendment including trademarked names which thereby makes the amended claim indefinite. Further to the inclusion of the partial translation, this translation was not originally filed and does not obviate the 112 2nd paragraph rejection now issued. Replacement of trademarked terms with a generic description is advised.

Applicant argues the use of Takahashi because Applicant contests the invention would not be obvious. However, the Applicant has not persuasively argued because Davis teaches most of the similar materials and Takahashi was used to teach thickness of adhesives. Takahashi is within the art because it teaches metal wires and adhesives surrounding them and includes an equation to show how adhesive thickness is an optimizable feature (col. 9, lines 40-55).

Applicant argues the use of EPD terpolymer, however, Davis '838 and Beck are now used to teach this polymer with brass plated metals, thus this issue is moot.

Applicant further argues the Examiner has not indicated each element found in the prior art to indicate a suggestion within the prior art. With regard to the claimed implicit teachings (shrinkage control material) when the claimed and prior art products are identical or substantially identical in structure or are produced by identical or a substantially identical processes, a *prima facie* case of either anticipation or obviousness will be considered to have been established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977), *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed products. *In re Best*, 195 USPQ 430, 433 (CCPA 1977). Applicant has argued that the Examiner did not point to suggestions within the art, however, as previously set forth, the Examiner included column and line numbers attributed to similar material and would expect such material to function as a "shrinkage control material". Further, because the same material is disclosed, the Applicant's termed, "shrinkage control material" is equivalent. Naming the same or similar material a different name does not differentiate the claimed product. A *prima facie* case has been established, and therefore the burden shifts to the Applicant to

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submit additional objective evidence of nonobviousness, such as comparative test data showing that the claimed invention possesses improved properties not expected by the prior art. Until the Applicant can show and prove any results that would not obvious, the rejection will stand.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 4218349 to Minatono et al. teaches a rubber composition comprising EPD polymers, vulcanizing rubbers, and application to brass-plated steel. JP 2594537 to TOSHIICHI et al. teaches an extruded resin molded body over a brass wire.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tamra L. Dicus
Examiner
Art Unit 1774

July 15, 2004


RENA DYE
Supervisory PRIMARY EXAMINER
A.U. 1774